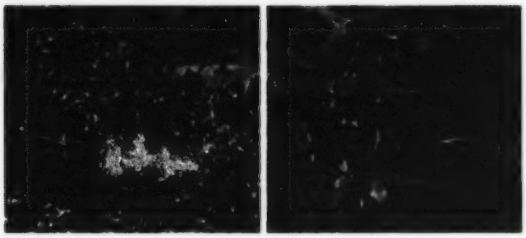
Broom



Putting it in its place

Back to the Forest Practices Branch

Broom and a similar plant species, gorse, have long been associated with roadside vegetation in southwestern British Columbia. Both species originated in the Mediterranean region of western Europe and have been introduced to other parts of the world where they compete very successfully with native plants. Broom is suited to the mild maritime climate found on the coast of British Columbia, but the harsh winters of higher elevations may limit its spread inland. Broom readily occupies well drained, excessively disturbed or naturally poor sites. Broom has become increasingly noticeable in newly logged areas. There is concern that it may be spreading and could pose a threat to forests and other resources on the southwest coast.

What is broom?

Broom is a dark green deciduous shrub up to three metres tall, with small leaves and yellow or occasionally white flowers, having a purple or brownish tinge. The flowers appear in early spring and develop into pods by summer. Broom has a deep root and a waxy covering on its branches and small leaves-good adaptations for the dry sites it tends to favor.

Broom originates in the Mediterranean region of western Europe

Broom can remove nitrogen from the air, "fixing it" in the soil. Nitrogen is a nutrient necessary for plant growth. This adaptation allows broom to establish readily on poor soils. As broom is moderately shade tolerant, it can remain as part of the forest understorey as well as thrive in full sunlight.

Broom plants produce large amounts of seed annually (typically 18,000), starting at two to three years of age. Pods containing the seed explode when ripe, dispersing the seed. Seeds can remain "banked" in the soil for up to 30 years, germinating when the soil is warm and exposed.

Origin and spread of broom

Broom's deep tap root, waxy covering and its ability to fix nitrogen allow it to take hold on many distrubed sites, displacing native plants

Broom is native to Europe. It was introduced to New Zealand and the Pacific Northwest as a garden or ornamental hedge species. Captain Walter Colquhoun Grant brought seed to Vancouver Island from Hawaii in the 1850s. Grant planted these seed on his 14 hectare estate in Sooke.

Since being introduced to B.C., broom has spread from the Sooke area up the east side of Vancouver Island. It has been reported on the Gulf Islands as far north as Cortes, Hernando, Savary and Texada Islands. Broom can be found on the lower Mainland, on the Sunshine Coast to Powell River, and through the Fraser Valley and Chilliwack Valley to Hope.

On the outer edges of its range, broom tends to be found close to roadsides. However, in the Mediterranean climate of West Vancouver, Squamish, the Gulf Islands and southern Vancouver Island, broom has spread extensively into forest sites, parks, ecological reserves and farmland. It has also been noted on the coast as far north as Bella Bella, in the West Kootenay region along the west arm of Kootenay Lake, and between Nelson and Castlegar.

Beneficial and negative aspects of broom

Broom is a common sight along roadsides. It quickly invades coastal sites disturbed by construction, logging or other activities

For years broom was regarded as a beneficial plant. During pioneering times, the seeds of broom were roasted and used as coffee substitute, while new shoots were used as a replacement for hops in beer production. However, it is now known that the leaves, buds and pods of broom contain toxic chemicals or substances that can affect the nervous system and the heart.

Broom was intentionally planted to stabilize road cuts and as an ornamental in private gardens and some parks. These practices have resulted in wide distribution of broom throughout the south coastal area of B.C. There are indications that broom is spreading rapidly into forested areas of southern Vancouver Island and western Oregon and Washington where it is interfering with forest establishment.

Like many introduced species, broom does not have any of the natural enemies of its land of origin in B.C. For this reason broom has spread indiscriminately. It has readily established on many droughty and disturbed sites, growing to heights of 2.5 metres in only two years. Excessive seed production and longevity have ensured that broom can dominate a site for long periods. As many of our native species cannot effectively compete with broom, they are being replaced.

Each broom plant produces approximately 18,000 seeds per year, beginning at age two or three. Seed can remain dormant in soil for up to 30 years waiting for suitable conditions to germinate

How can the spread of broom be prevented?

- Early detection and prompt control of broom in newly infested areas.

- Plant sites prone to broom infestation with preferred vegetation immediately after disturbance.
- Remove young broom plants before they flower. Mature plants should be removed in spring or early summer before their seeds are mature. Alternate vegetation should be maintained on these sites and broom sprouts removed as they appear.
- Do not plant broom as an ornamental.
- Avoid planting broom for slope stability. Instead, plant alternate vegetation, such as hardy grasses, clover or native plants. Your local nurseries can provide assistance in finding plants or shrubs.
- Prevent soil erosion. Broom seed remains dormant for years and is protected by a tough coat. It can easily be carried miles from the initial infestation in ditches and streams.
- Thoroughly clean equipment used on infested sites before leaving the sites.

Vacant farm land, park land and recently logged forest sites are prime areas for broom infestation

How can broom be controlled?

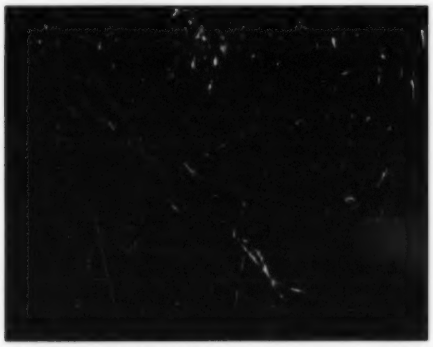
Like many introduced species, broom is difficult to eradicate. Currently, biological agents have not been found to be effective in controlling broom. To completely remove broom from a site, a number of treatments are usually necessary.

These include:

- Cutting the plant stem close to ground level. This may kill the plant if it is old or under maximum drought stress.
- Mechanical crushing using bulldozers and crushers, followed by burning of the remains. Sprouts can then be controlled by cutting, herbicides or grazing.
- Using a herbicide. Some herbicides have been effective in eradicating broom. For more information contact your local Forest Service office or a professional weed control specialist.
- Grazing. Control of broom has been achieved using goats, although grazing may have to be repeated to treat sprouts from cut stems and banked seeds.

What is being done?

The British Columbia Forest Service is:

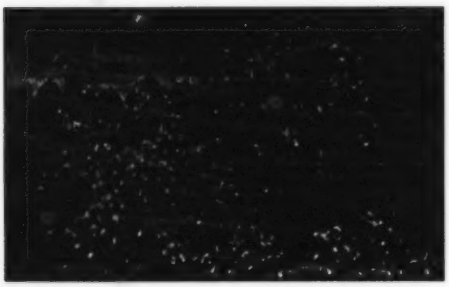


Once established, broom is very difficult to eradicate

- Tracking the present geographic location of broom in the province and the extent of its spread to other areas.
- Tracking the movement of broom into forested areas and its impact on crop trees.
- Determining effective means to control broom in British Columbia. Other jurisdictions are being consulted regarding methods used to combat broom.
- Informing the public on effective measures to prevent the spread of broom.

Conclusion

Broom will not likely become a significant competitor outside its limited range. However, timber harvesting, road development and similar activities causing soil disturbance will provide opportunities for establishment. It is important that broom is recognized as a threat to our biodiversity and preventative measures be taken to arrest its spread.



By becoming informed about broom, we can all help to limit the spread of this fierce competitor

For more information:

Contact the nearest British Columbia Forest Service regional or district office or write to:

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